REMARKS

This Amendment is in response to the Examiner's Office Action dated 15 July 2004.

In paragraph 1 of the detailed Action, the Examiner comments on the orientation of the tables on pages 51 through 53. Applicants have corrected the orientation. For the Examiner's convenience, a marked version of the amendments to pages 51-53 is attached along with a clean copy of the pages in portrait orientation.

In paragraph 2 of the Action, the Examiner objects to claims 35-63 and 68-96. The dependency/preamble has been corrected in accordance with the Examiner's comments.

With regard to paragraphs 6 through 12, the Examiner makes a number of suggestions regarding claim language to improve readability, correct a grammatical informality and to obtain a consistent understanding of the terminology of the claims. Applicants have amended the claims appropriately where necessary.

With respect to paragraph 6, the Examiner questions the terminology. The term "nylon copolymer" relates to a nylon material having two or more differing monomer materials to form the copolymer. Apart from poly-caprolactam, most nylons are a reaction product of a diamine and a diacid compound. Poly-caprolactam is a polymer that is made from a cyclic lactam monomer that polymerizes in a ring opening polymerization. In a nylon polymer there are typically one di-amine monomer and one di-acid monomer. In a nylon copolymer, there are at least two diamine monomers or two diacid monomers in the polymer chain to form a nylon copolymer. An ordinary copolymer such as nylon 6,6 made by a reaction between 1,6-hexanediamine and a C_6 dicarboxylic acid is a polymer and is not a copolymer under this technology. Neither is poly-caprolactam a copolymer under this terminology, since it is merely a repeating unit of the C_5 lactam molecule in which the polymer has the formula:

$$-[HNCH_2CH_2CH_2CH_2CO_2]_n-$$

n being a large number.

In making a polycaprolactam, the lactam ring opens and forms a linear polymer from the difunctional monomer. Accordingly, the term "copolymer" does not relate to a mixture of two polymers, but indicates that there are a variety of either amine or carboxylic acid monomers in the polymer chain.

Regarding paragraph 8, claims 20, 51 and 84 have been amended to recite that the additive comprises a blend of the additive and a fluoropolymer. Accordingly, the Examiner's understanding is correct.

The Examiner rejects claim 3 under 35 U.S.C. § 112 arguing that claim 3 is indefinite. Applicants have made an appropriate amendment regarding this rejection.

The Examiner, in paragraph 17 rejects claims 1-32 under the judicially created doctrine of obviousness-type double patenting over copending application 09/871,169. Applicants note for the record that the basis for this double patenting rejection, Gillingham et al., U.S. Serial No. 09/871,169 filed 31 May 2001 has now been abandoned as confirmed by the enclosed Notice of Abandonment from the U.S. Patent and Trademark Office. Accordingly, since there are no related cases outstanding, this double patenting rejection must be withdrawn. Since the abandoned application will never become a granted patent, the double patenting rejection is now moot.

In view of the above amendments and remarks, Applicants respectfully request a Notice of Allowance. If the Examiner believes a telephone conference would advance the prosecution of this application, the Examiner is invited to telephone the undersigned at the below-listed telephone number.

Respectfully submitted,

14 Oct. '04
Date

Mark DiPietro
Reg. No. 28,707
MERCHANT & GOULD P.C.
P.O. Box 2903
Minneapolis, MN 55402-0903
Telephone: (612) 371-5375
E-mail: mdipietro@merchant-gould.com

K:\CLIENTS\00\00758\1200-1299\1234USC1\P-Amendment.doc

23552
PATENT TRADEMARK OFFICE

MARKED VERSION

Example 18

The following filter ~~medias~~ composite materials have been made with the listed substrate using the methods described in Example 1-17.

Filter ~~Media~~ Examples

Substrate	Substrate perm (Frazier)	Substrate Basis wt (lbs/3000 sq ft)	Substrate Thickness (in)	Substrate Eff (LEFS)	Composite Eff ~~(LEFS~~ (LEFS)
Single fine fiber layer on single substrate (flow either direction through media)	(+/- 10%)	(+/- 10%)	(+/- 25%)	(+/- 5%)	(+/- 5%)
Cellulose air filter media	58	67	0.012	11%	50%
Cellulose air filter media	16	67	0.012	43%	58%
Cellulose air filter media	58	67	0.012	11%	65%
Cellulose air filter media	16	67	0.012	43%	70%
Cellulose air filter media	22	52	0.010	17%	70%
Cellulose air filter media	16	67	0.012	43%	72%
Cellulose/synthetic blend with moisture resistant resin	14	70	0.012	30%	70%
Flame retardant cellulose air filter media	17	77	0.012	31%	58%

Filter ~~Media~~ Examples (Continued)

Substrate	Substrate perm (Frazier)	Substrate Basis wt (lbs/3000 sq ft)	Substrate Thickness (in)	Substrate Eff (LEFS)	Composite Eff ~~(LEFS~~ (LEFS)
Flame retardant cellulose air filter media	17	77	0.012	31%	72%
Flame retardant synthetic air filter media	27	83	0.012		77%
Spunbond ~~Remay~~ Reemay (polyester)	1200	15	0.007	5%	55%
Synthetic/cellulose air filter media	260	76	0.015	6%	17%
Synthetic/glass air filter media	31	70	0.012	55%	77%
Synthetic/glass air filter media	31	70	0.012	50%	90%

Filter ~~Media~~ Examples (Continued)

Substrate	Substrate perm (Frazier)	Substrate Basis wt (lbs/3000 sq ft)	Substrate Thickness (in)	Substrate Eff (LEFS)	Composite Eff ~~(LEFS~~ (LEFS)
Synthetic (Lutrador-polyester)	300	25	0.008	3%	65%
Synthetic (Lutrador-polyester)			0.016		90%

Media has been used flat, corrugated, pleated, corrugated and pleated, in flatsheets, pleated flat panels, pleated round filters, and other filter structures and configurations.

Example 18

The following filter composite materials have been made with the listed substrate using the methods described in Example 1-17.

Filter Examples

Substrate	Substrate perm (Frazier)	Substrate Basis wt (lbs/3000 sq ft)	Substrate Thickness (in)	Substrate Eff (LEFS)	Composite Eff (LEFS)
Single fine fiber layer on single substrate (flow either direction through media)	(+/- 10%)	(+/- 10%)	(+/- 25%)	(+/- 5%)	(+/- 5%)
Cellulose air filter media	58	67	0.012	11%	50%
Cellulose air filter media	16	67	0.012	43%	58%
Cellulose air filter media	58	67	0.012	11%	65%
Cellulose air filter media	16	67	0.012	43%	70%
Cellulose air filter media	22	52	0.010	17%	70%
Cellulose air filter media	16	67	0.012	43%	72%
Cellulose/synthetic blend with moisture resistant resin	14	70	0.012	30%	70%
Flame retardant cellulose air filter media	17	77	0.012	31%	58%

Filter Examples (Continued)

Substrate	Substrate perm (Frazier)	Substrate Basis wt (lbs/3000 sq ft)	Substrate Thickness (in)	Substrate Eff (LEFS)	Composite Eff (LEFS)
Flame retardant cellulose air filter media	17	77	0.012	31%	72%
Flame retardant synthetic air filter media	27	83	0.012		77%
Spunbond Reemay (polyester)	1200	15	0.007	5%	55%
Synthetic/cellulose air filter media	260	76	0.015	6%	17%
Synthetic/glass air filter media	31	70	0.012	55%	77%
Synthetic/glass air filter media	31	70	0.012	50%	90%

Filter Examples (Continued)

Substrate	Substrate perm (Frazier)	Substrate Basis wt (lbs/3000 sq ft)	Substrate Thickness (in)	Substrate Eff (LEFS)	Composite Eff (LEFS)
Synthetic (Lutrador-polyester)	300	25	0.008	3%	65%
Synthetic (Lutrador-polyester)			0.016		90%

Media has been used flat, corrugated, pleated, corrugated and pleated, in flatsheets, pleated flat panels, pleated round filters, and other filter structures and configurations.